

Self-Assessments

on Concept (1.3)

Self-Assessment 10 On Lesson 1

1 (A) Put (✓) or (X) :

1. Eyes send information through nerves to the brain for processing them. ()
2. The membrane that presents at the back of cat's eyes depends on sound to detect the prey location. ()
3. Fishing cat has excellent night vision better than human. ()

(B) Give a reason for the following :

The fishing cat's eyes pupils open widely at the low-light places.

.....

2 (A) Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Fishing cat	a. depends on touch to hunt.
2. Human	b. has no mirror-like membrane at the back of the eye.
	c. has a mirror-like membrane at the back of the eye.

1.

2.

(B) Give a reason for the following :

We can see the moon shining although it is not a source of light.

.....

3 Choose the correct answer :

1. If the human eyes contain a mirror-like membrane like which is found in fishing cat's eyes, then all the following statements are correct, except that human eyes
 - a. seem to glow at night.
 - b. have excellent night vision.
 - c. don't need night vision goggles.
 - d. need a strong source of light to can see at night.
2. In the low-light places, cat's eyes pupils open human's eyes pupils.
 - a. equal to
 - b. smaller than
 - c. narrower than
 - d. wider than
3. Which of the following animals has the ability to fly but can't see clearly at night ?
 - a. Fishing cat.
 - b. Snake.
 - c. Bat.
 - d. Fennec fox.

4. All the following have structural adaptation in their eyes, except
- owls.
 - fishing cats.
 - panther chameleons.
 - bats.

Self-Assessment 11 till Lesson 2

1 (A) Put (✓) or (X) :

- You can see a green ball inside a transparent glass box. ()
- Opaque objects allow light to pass through and we can see objects through them. ()
- In a completely dark room, we can see the transparent objects but opaque objects cannot be seen. ()

(B) Give a reason for the following :

You can see clearly through air.

.....

2 (A) Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Water	a. It is an opaque material, that reflects light in different directions.
2. Glass	b. It is a source of light energy.
3. Wood	c. It is a transparent material that is used in making windows.
	d. It is a transparent liquid material.

1.

2.

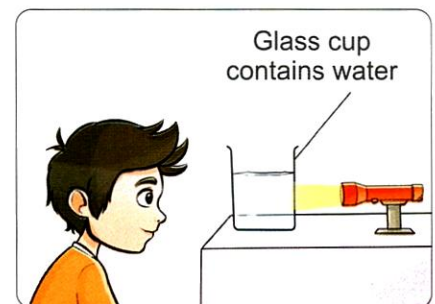
3.

(B) Cross out the odd word :

- Mirror – Cloth – Paper – Wood sheet. (.....)
- Wood door – Book – Wall – Glass cup. (.....)

3 Look at the opposite figure, then answer the questions below :

- Can you see the light from the other side of cup ?
.....
- From this activity, we can conclude that
 - water and glass are opaque objects.
 - water and glass are transparent objects.
 - water is an opaque object, while glass is a transparent one.
 - glass is an opaque object, while water is a transparent one.



Self-Assessment 12 till Lesson 3

1 (A) Put (✓) or (X) :

1. Firefly beetles form different flash patterns by using their legs. ()
2. Speaking is one of the ways to communicate with people. ()
3. Light energy not used by humans or firefly beetles for communication. ()

(B) Give a reason for the following :

The wings of firefly beetles play an important role in the communication between them.

.....

.....

2 (A) Correct the underlined words :

1. Changing the flash patterns of firefly beetles is considered as a structural adaptation. (.....)
2. A cell phone is a device that is used in communication between animals. (.....)
3. Reading is a type of communication that depends on the sense of taste. (.....)

(B) How can firefly insects produce light to communicate with each other ?

.....

.....

3 Choose the correct answer :

1. is a type of communication which is used by humans only.
 a. Sound b. Light c. Echolocation d. Cell phone
2. Which of the following is not a reason for firefly beetles produce a flash light ?

 a. To attract a mate. b. For communication.
 c. To warn off from predators. d. To hear in the dark.
3. is considered a type of communication used by animals only.
 a. Writing b. Echolocation c. Reading d. Cell phone
4. A firefly is not a bird, but it is a type of
 a. amphibians. b. lizards. c. beetles. d. reptiles.

13

till Lesson 4

1 (A) Choose the correct answer :

- a. whale b. owl c. firefly beetles d. human

(B) Give a reason for the following :

In cats' eyes the mirror-like membrane cannot make its function in a completely dark room.

2 (A) Put (✓) or (X) :

- of rescue helicopters.. ()

(B) What happens if ... ?

The structure of fishing cat's eyes are like that of human's eyes.

3 Complete the following table using the words below :

(communicate - eyes - flash patterns - light reflection - bodies - hunt - chemical reaction - mirror - like membrane)

Fishing cats	Firefly beetles
1. There is a special structure known as a presents at the back of their	1. They produce light, due to the occurrence of a inside their
2. The special structure of sight causes to collect more light, and helps them to at night.	2. They use their wings to form different that help them to at night.

1 (A) Choose the correct answer :

(5 marks)

1. can communicate by displaying light.
 - a. All animals
 - b. All plants
 - c. All plants and animals
 - d. Humans and some animals
2. Each of human and fishing cat,
 - a. has a mirror-like membrane in their eyes.
 - b. has an excellent night vision.
 - c. has two eyes adapted for vision.
 - d. becomes more active at night.
3. Which of the following communications depends on the sense of sight only ?
 - a. Watching TV.
 - b. Flashing lights of fireflies.
 - c. Echolocation.
 - d. Using the cell phone.
4. Painted surface the incoming light rays.
 - a. absorbs only
 - b. reflects only
 - c. absorbs and reflects
 - d. allows to pass

(B) Give a reason for the following :

You can see an object placed behind a glass cup.

.....

2 (A) Put (✓) or (X) :

(5 marks)

1. Transparent objects don't allow light to pass through them. ()
2. Human has huge eyes like fishing cat to gather and reflect any light available. ()
3. Nocturnal animals have bigger eyes than humans. ()
4. Human can see in dim light as well as in bright light if his eyes contain a mirror-like membrane. ()

(B) What happens if ... ?

Light falls on a rough surface.

.....

3 (A) Complete the following sentences :*(5 marks)*

1. The is the main control center in humans and animals bodies, while are considered the organ of sight in their bodies.
2. Fishing cats depend on the sense of in weak light levels, while in complete darkness they depend on the senses of and
3. In the eyes of animals, there is a mirror-like membrane that light.
4. Paper and a piece of cloth are considered surfaces that diffuse or scatter energy.

(B) Cross out the odd word :

1. Fire – Candle – The moon. (.....)
2. Flashlight – The moon – Mirror. (.....)

Model Exam **2**

on Concept (1.3)

Total mark

15

1 (A) Choose the correct answer :

(5 marks)

- The mirror-like membrane of the fishing cat is present
a. inside the lungs. b. at the back of the eye.
c. inside the stomach. d. at the back of the brain.
- Light travels in lines in the form of waves.
a. circular b. curved c. zigzag d. straight
- Reading and writing are common types of communication in world.
a. plants b. humans c. animals d. insects
- Sense organs collect information and send signals to for processing and understanding,
a. legs b. stomach c. brain d. hands

(B) Give a reason for the following :

The fishing cat's eyes seem to glow in the dark.

.....

2 (A) Complete the following sentences :

(5 marks)

- Human can see objects which give off their own light or objects which light.
- Rough materials reflect light than smooth materials.
- A group of firefly beetles can change their own to match the flash pattern of another group to communicate.
- Ears of humans detect energy, while their eyes detect energy.

(B) What happens if ... ?

The mirror-like membrane in the fishing cat's eyes is not present.

.....

3 (A) Put (✓) or (X) :

(5 marks)

- Cats have excellent night vision, while humans are not. ()
- Mirror reflects most of incoming light rays that fall on it. ()
- Different languages have similar codes. ()
- A cell phone is a device that is used in communication between animals. ()

(B) Write the scientific term of each of the following :

- Materials that allow light to pass through. (.....)
- The sense organ of light (.....)

Self-Assessments

on Concept (2.1)

Self-Assessment 14 On Lesson 1

1 (A) Put (✓) or (X) :

1. The engine of a normal truck is the same engine of a rocket. ()
2. Engineers use the same idea of rocket design in stopping the Shockwave truck. ()
3. You need energy to make a force to move a chair from one place to another. ()

(B) Give a reason for the following :

By increasing the number of fire extinguishers,
the distance that the cart moves will increase.

.....
.....



2 (A) Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Normal engine	a. is used in stopping both of the Shockwave truck and rockets.
2. Jet engine	b. is used in moving a normal truck.
3. Parachute	c. is used to stop a normal truck.
	d. is used in moving the Shockwave truck.

1.

2.

3.

(B) Which is faster, a normal truck or the Shockwave truck ?

(Give a reason for your answer).

.....
.....

3 This picture represents one of the most powerful and fastest trucks in the world :

1. What is the name of this truck ?

.....

2. What happens if the three jet engines of this truck are replaced by the engine of a normal truck ?

.....

.....



Self-Assessment 15

till Lesson 2

1 (A) Choose the correct answer :

1. A book is placed on a table is affected by
 - a. gravity pulling force only.
 - b. table pushing force only.
 - c. table pulling force and gravity pushing force.
 - d. table pushing force and gravity pulling force.
2. When you sit on a chair which of the following sentences is correct ?
 - a. gravity pulling you upward.
 - b. gravity pulling you downward.
 - c. chair pulling you upward.
 - d. chair pushing you downward.
3. We can see all the following motions, except
 - a. the rotation of Earth around the Sun.
 - b. a person crossing the road.
 - c. a person riding a bicycle.
 - d. a person swimming in the sea.

(B) What happens if ... ?

The pulling force of one of the two teams in tug-of-war game becomes greater than the other team.

.....

.....

2 (A) Correct the underlined words :

1. To move up any object from the ground, the pulling force of your hand must be smaller than the pulling force of the gravity. (.....)
2. In tug-of-war game, the winner team is the team with the weaker force. (.....)
3. You can stop the ball that is thrown toward you by the pulling force of your hands against the ball movement. (.....)

(B) Give a reason for the following :

Parachutes are used in the Shockwave truck and rocket .

.....

Concept 1.3 Light and Sight

1 Choose the correct answer:

- 1 _____ energy affects the sensory receptors in the eyes, causing vision.
a. Sound b. Kinetic c. Light d. Magnetic
- 2 The organ responsible for the sense of sight is the _____.
a. ears b. tongue c. nose d. eyes
- 3 Each of the following is considered a source of light, except _____.
a. fire b. the Sun c. the lamp d. the eye
- 4 Which of the following is a source of light?
a. The moon b. Our eyes c. Fire d. Mirror
- 5 The eyes of nocturnal animals are _____ the human eye.
a. smaller than b. bigger than c. the same as d. narrower than
- 6 Both fishing cats and owls _____.
a. can swim b. are nocturnal animals
c. can fly d. can rotate their eyes
- 7 Humans have _____ eyes than nocturnal animals.
a. bigger b. smaller c. stronger d. sharper
- 8 The pupils of nocturnal animals are open _____ humans' pupils.
a. wider than b. similar to c. narrower than d. shorter than
- 9 The eyes of _____ glow in the dark.
a. bats b. cats c. penguins d. snakes
- 10 What feature of light helps you see yourself in the mirror?
a. Refraction b. Ray length c. Shortness d. Reflection
- 11 Light travels in _____ lines.
a. curved b. straight c. zigzag d. circular
- 12 Which of the following material does not form a shadow when light falls on it?
a. Wood b. Glass c. Carton d. Tree

Final Revision

- 13 Which of the following allows light to pass through it?
 a. Rock b. The moon c. Wood d. Glass
- 14 A mirror makes the falling light rays _____.
 a. pass through it b. reflect in different directions
 c. reflect in the same direction d. diffuse like that of rough surfaces
- 15 _____ is/are considered from transparent objects.
 a. Metals b. Lenses c. Mirrors d. Wood
- 16 All the following are transparent materials, except _____.
 a. glass b. air c. paper d. lenses
- 17 All of the following materials are opaque, except _____.
 a. wood b. the human body c. water d. iron
- 18 When light falls on a dark surface, _____.
 a. the surface absorbs the light b. light passes through it
 c. the light is refracted d. nothing happens
- 19 A firefly is not a bird, but it is a type of _____.
 a. amphibians b. lizards c. beetles d. reptiles
- 20 Changing the pattern of lighting up in a firefly is an example of _____ adaptation(s)
 a. structural and behavioral b. physical and behavioral
 c. structural d. behavioral
- 21 _____ produce a chemical reaction inside their bodies.
 a. Butterflies b. Fireflies
 c. Houseflies d. Owls
- 22 Raising your thumb up or lowering it down is a kind of _____.
 a. colors b. codes
 c. waves d. lights

2 Complete the following sentences using the words between the brackets:

- 1 The eye pupils of owls open _____ than the eye pupils of humans.
 (narrower - wider)
- 2 _____ is from the sources of light.
 (The moon - Fire)

- 3 Air and water are _____ materials and you can see things through them. (transparent - opaque)
- 4 Smooth surfaces reflect light in _____ direction(s). (the same - different)
- 5 Light does not pass through _____ matter. (transparent - opaque)
- 6 _____ is from the opaque objects. (Carton - Glass)
- 7 When light is scattered from a surface in different directions, this surface is _____. (rough - smooth)
- 8 The different languages are considered as _____. (codes - lights)

3 Put (✓) or (X):

- 1 Both humans and animals need a light source to see. ()
- 2 The human eyes can see in the dark clearly. ()
- 3 Humans can see in dim light better than in bright light. ()
- 4 The moon is considered a light source. ()
- 5 All nocturnal animals have excellent night vision. ()
- 6 Nocturnal animals have eyes that are bigger than the human eyes. ()
- 7 Some animals can see clearly at night, such as a wild cats. ()
- 8 The fishing cat can't hunt in the dark. ()
- 9 Cats have excellent night vision, while bats don't. ()
- 10 Wood is a transparent object that allows light to pass through it. ()
- 11 The wooden board reflects less light than the mirror. ()
- 12 The opaque materials do not let the light pass through. ()
- 13 Shadow is formed when light hits a transparent object. ()
- 14 Polished surfaces, as mirrors, reflect light rays in the same direction. ()
- 15 The light reflection depends on the smoothness of the objects' surface. ()
- 16 If I can see my face clearly on a surface, this means that it is a smooth, shiny surface. ()

Final Revision

- 17 A written language helps people communicate. ()
- 18 Fireflies can communicate with each other using sound energy. ()
- 19 Humans use light to communicate, such as using traffic lights. ()
- 20 In order for the code to be translated, the brain must identify it. ()
- 21 Red and green traffic lights are codes. ()

4 Write the scientific term:

- 1 It's the visible form of energy that travels in the form of waves.
- 2 It's the organ that is affected by light and is responsible for sight.
- 3 They're objects that emit their own light.
- 4 It's a tool used by people, and it works as the eyes of fishing cats at night.
- 5 It's a type of wild cat that has eyes that glow at night.
- 6 They're materials that allow light to pass through.
- 7 They're materials that don't allow light to pass through.
- 8 They are materials that reflect the light rays in one direction.
- 9 They are materials that diffuse light in different directions.

5 Cross out the odd word:

- 1 Lenses - Air - Brick - Water
- 2 Sun - Moon - Fire - Candle
- 3 Wood - Glass cup - Book - Wall
- 4 Paper - Wood - Cloth - Mirror

6 Classify the following materials into transparent and opaque materials:

- 1 A chair made of wood: _____
- 2 An aluminum pot: _____
- 3 Air: _____
- 4 Glasses of glass: _____

7 Classify the following materials into transparent and opaque materials:

(Rock - Glass - Window)

8 Classify the following materials into smooth and rough materials:

(Mirror - Cloth - Metal - Wood)

9 Choose from column (A) what suits it in column (B):

A

Column (A)

- 1 The Sun
- 2 Shadow
- 3 The moon
- 4 Smooth surfaces

Column (B)

- a. reflect light rays in one direction.
- b. is formed when the light strikes a human body.
- c. is a source of light.
- d. is shiny but is not considered a source of energy.

1 _____

2 _____

3 _____

4 _____

B

Column (A)

- 1 Sight
- 2 Light
- 3 The mirror-like membrane

Column (B)

- a. is the visible form of energy that is transmitted in the form of waves.
- b. is a structural adaptation in the eyes that provides some animals with better vision at night.
- c. is the sense that helps us see.

1 _____

2 _____

3 _____

C

Column (A)

- 1 Rough surfaces
- 2 Light travels in
- 3 Whatching TV
- 4 Fireflies

Column (B)

- a. is a type of communication for humans only.
- b. light up their wings to attract a mate.
- c. diffuse light in different directions.
- d. straight lines.

1 _____

2 _____

3 _____

4 _____

10 Look at the path of the light rays in pictures (A) and (B).

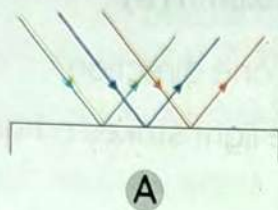
- Determine which of the two objects is opaque and which is transparent.

(A): _____

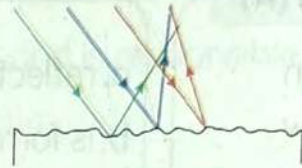
(B): _____



11 Which of the following surfaces represents the reflection of light rays from wood and what is the reason?



A



B

12 Your friend wants to prevent the light from entering his room.

Suggest him some materials that he can use on the window to prevent the light from entering his room. _____

13 Give reasons for:

- 1 The moon is not considered a source of light.
- 2 A candle is considered a source of light.
- 3 Nocturnal animals can see better than humans at night.
- 4 A cat's eyes glow in the dark.
- 5 The eyes of humans do not glow like cats in the dark.
- 6 You can see an object placed behind a glass cup.
- 7 A shadow is formed when light falls on an opaque object.
- 8 None of the light energy passes through the opaque objects.

14 What happens if:

- 1 Light falls on a book?
- 2 Light falls on a rough surface?

Concept 2.1

Starting and Stopping

1 Choose the correct answer:

- 1 When an object is in motion, this means that its _____ changes.
 a. color b. shape c. size d. position
- 2 When you move something towards you, this represents _____.
 a. pushing force b. light energy c. pulling force d. sound energy
- 3 When you sit on a chair, the force of gravity is _____ and holding you on the chair
 a. pulling you upward b. pulling you downward
 c. pushing you upward d. pushing you downward
- 4 Push or pull actions are considered types of _____.
 a. forces b. devices c. energies d. adaptations
- 5 The force that pulls the objects down towards the center of the Earth is _____ force.
 a. gravity b. pushing c. air d. wind
- 6 The force that occurs when an object rubs against another object is called _____ force.
 a. pull b. push c. gravity d. friction
- 7 You can see the movement of all the following objects, except the movement of _____.
 a. a flying airplane b. a running horse
 c. sea waves d. the planet Earth
- 8 The force that slows down (decreases) the object's speed is called _____.
 a. push b. gravity c. friction d. pull
- 9 _____ is the ability to do work.
 a. Energy b. Force c. Push d. Pull

Final Revision

- 10 All the following are examples of pulling force, except _____.
 - a. pulling the rope
 - b. kicking a ball
 - c. opening the desk's drawer
 - d. lifting up your bag
- 11 When a body moves forward, the change that occurs is in _____.
 - a. the position of the body
 - b. the size of the body
 - c. the mass of the body
 - d. Earth's gravity
- 12 Objects need a force to move, this force is represented in _____.
 - a. pushing only
 - b. pulling only
 - c. pushing and pulling together
 - d. the Earth gravity only
- 13 When a ball stands on the ground without moving, the forces acting on it are _____.
 - a. unbalanced
 - b. balanced
 - c. pushing it up
 - d. not equal
- 14 In the following figure, the body is under the effect of _____.



- a. balanced forces and is moving to the right
 - b. forces and is moving to the left
 - c. unbalanced forces and is moving to the right
 - d. unbalanced forces and is moving to the left
- 15 The energy gained by a ball when it falls from above is _____ energy.
 - a. potential
 - b. kinetic
 - c. light
 - d. chemical

2 Complete the following sentences using the words between the brackets:

- 1 The car slows down its speed when it runs out of fuel, as a result of _____.
(gravity - friction)
- 2 The _____ forces makes the static object move.
(balanced - unbalanced)
- 3 The force that pulls things down is _____.
(friction - gravity)

- 4 When playing the tug-of-war game, if each team pulls the rope with equal force, the forces are _____ (balanced - unbalanced)
- 5 To slow down the speed of a Shockwave truck, the drivers use _____ parachutes. (5 - 3)

3 Put (✓) or (x):

- 1 Air resists the motion of a car. ()
- 2 Gravitational force is an upward pulling force. ()
- 3 When a pen falls from your hand, the acting force is gravity. ()
- 4 When a static body is affected by balanced forces, the body moves. ()
- 5 The seesaw moves up and down because the forces that act on it are unbalanced. ()
- 6 When the position of the body changes from a fixed point, we can say that the body moves. ()
- 7 The force that slows down or decreases the speed of an object is gravity. ()
- 8 Gravity pulls objects towards the center of the Earth. ()
- 9 When a car crashes into a wall, it will not stop. ()
- 10 We eat food to gain energy. ()
- 11 Unbalanced forces cause a change in the object's position. ()

4 Write the scientific term:

- 1 It's the force that pulls objects towards the center of the Earth.
- 2 It is a push or pull that is applied to an object making change its position.
- 3 It's the force that arises when objects rub against each other.

5 Choose from column (A) what suits it in column (B):

Column (A)

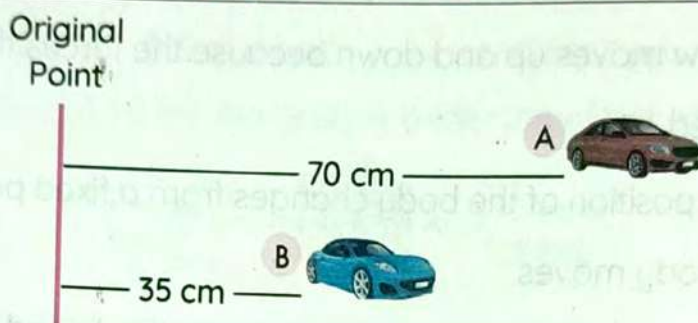
- 1 Friction
- 2 Motion
- 3 Energy
- 4 Gravity

Column (B)

- a. is the ability to do work.
- b. is the force that pulls things downwards.
- c. is the change of an object's position.
- d. is a force that arises between the surfaces of two contacting bodies.

- 1 _____ 2 _____ 3 _____ 4 _____

6 Look at the following figure, then answer the question below:



- Which of these toy cars is affected by greater force?
(Give reason for your answer.)
- _____

7 When you sit on the chair without moving:

- What is the name of the force that pulls you downward?
- _____
- _____

8 What happens if:

- A boy on a bike stops pedaling?
- _____
- _____